

AMENDMENTS TO THE DRAWINGS

The attached sheet(s) of drawings include changes to Fig(s). 3 and replace the original sheet(s) including such figures.

Attachment(s): Replacement Sheet including amended Fig. 3; and
 Annotated Marked-up Drawings showing changes to amended Fig. 3.

REMARKS

This paper is responsive to the Non-Final Office Action dated October 13, 2005. Claims 1-27 were examined. Claims 1-27 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

Figures

Figure 3 is amended to include reference number 30, consistent with the specification.

Claim Rejections - 35 U.S.C. § 101

Claims 1-27 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 is amended to recite

determining a path through a routing area of an integrated circuit based on at least the resultant piecewise linear function.

Applicants respectfully maintain that amended claim 1 is directed to patentable subject matter. Claim 1 (as amended) is directed to “a useful, concrete, and tangible result.”

Applicants respectfully point out that “if a claim requires more than the manipulation of ideas so that the process described in the claim produces something quite different, then the process might indeed describe statutory subject matter.” *See In re Warmerdam*, 33 F. 3d 1354, 1360 (Fed. Cir. 1994). “A mathematical formula alone, sometimes referred to as a mathematical algorithm in the abstract, is considered unpatentable subject matter.” *AT&T Corp. v. Excel Communications Marketing, Inc.*, 172 F.3d 1352, 1356 (Fed. Cir. 1999). However, amended claim 1 is not directed to a mathematical algorithm in the abstract, but rather directed to a practical application of linear minimum convolution that produces a path through a routing area of an integrated circuit. Accordingly, amended claim 1 is directed to a method that is patentable subject matter under 35 U.S.C. § 101. For at least this reason, Applicants respectfully request that the rejection of claim 1, and all claims dependent thereon, be withdrawn.

Claim 15 is amended to clarify the invention. Applicants respectfully maintain that claim 15 is directed to patentable subject matter. The Office appears to have analyzed claim 15 as if it were a process.

Applicants respectfully point out that “because the dispositive inquiry is whether a claim as a whole is directed to statutory subject matter, it is irrelevant that a claim may contain, as part of the whole, subject matter which would not be patentable by itself.” *See In re Alappat*, 33 F.3d 1526, 1543-44 (Fed. Cir. 1994). Claim 15 is directed to a computer program product encoded in computer readable media, which is a manufacture, i.e., a product that is patentable subject matter under 35 U.S.C. § 101. The computer program product encoded in computer readable media recited in claim 15 is directed to a computer program product encoded in computer readable media for calculating a linear minimum convolution of a value with a function, the function including a plurality of line segments connected at knot points. The claimed computer program product includes a software module, executable by an information processing system, for performing a forward leg sweep over the function in a first direction with a clipping function comprised of a knot point connecting a first leg of a first slope and a second leg of a second slope, the second slope being a negative of the first slope and includes a software module, executable by an information processing system, for performing a backward leg sweep over the function in a second direction with the clipping function. Accordingly, the product of claim 15 is patentable subject matter. For at least these reasons, Applicants respectfully request that the rejection of claim 15, and all claims dependent thereon, be withdrawn.

Claim 25 is amended to clarify the invention. Applicants respectfully maintain that claim 25 is directed to patentable subject matter. The Office appears to have analyzed claim 25 as if it were a process.

Applicants respectfully point out that “because the dispositive inquiry is whether a claim as a whole is directed to statutory subject matter, it is irrelevant that a claim may contain, as part of the whole, subject matter which would not be patentable by itself.” *See In re Alappat*, 33 F.3d 1526, 1543-44 (Fed. Cir. 1994). Claim 25 is directed to an information processing system, configured for calculating a linear minimum convolution of a weight value α with a continuous piecewise linear function L including a plurality of line segments connected at knot points,

which is a machine, i.e., a product that is patentable subject matter under 35 U.S.C. § 101. The information processing system includes at least one processor, includes a first module instantiable in memory of the processor for performing a forward leg sweep over the function L in a first direction with a clipping function comprised of a knot point connecting a first leg of slope α and a second leg of slope $-\alpha$, and includes a second module instantiable in memory of the processor for performing a backward leg sweep over the function L in a second direction with the clipping function. Accordingly, the information processing system of claim 25 is patentable subject matter. For at least these reasons, Applicants respectfully request that the rejection of claim 25, and all claims dependent thereon, be withdrawn.

Additional Remarks

Claims 11-13 are amended consistent with amendments to claim 1. Claims 17-20 are amended to correct typographical errors. Claim 21 is amended

New claims 28 and 29 are added. Claims 28 and 29 claim aspects of the invention that Applicants believe are allowable over the art of record.

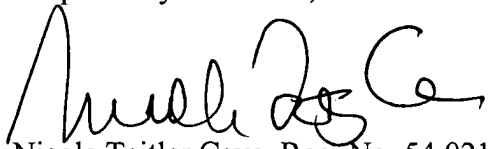
Summary

Claims 1-29 are in the case. All claims are believed to be allowable over the art of record, and a Notice of Allowance to that effect is respectfully solicited. Nonetheless, if any issues remain that could be more efficiently handled by telephone, the Examiner is requested to call the undersigned at the number listed below.

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Respectfully submitted,


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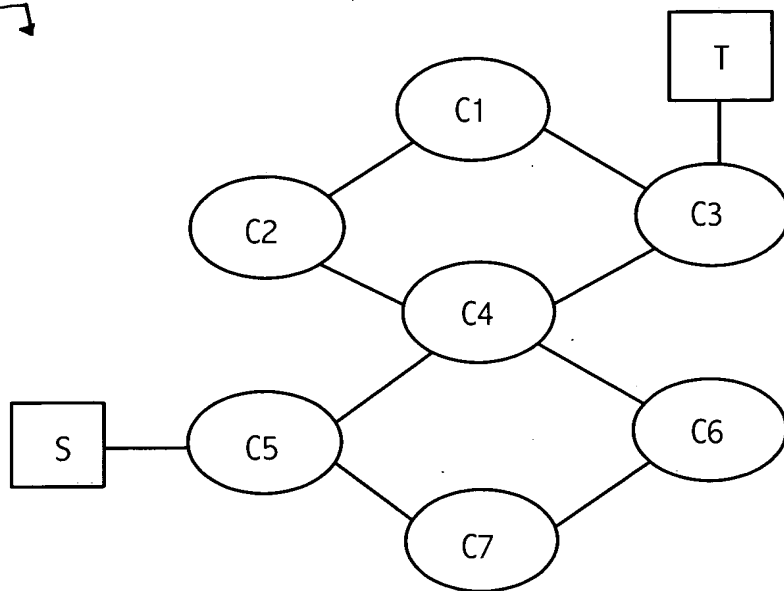


FIG. 3

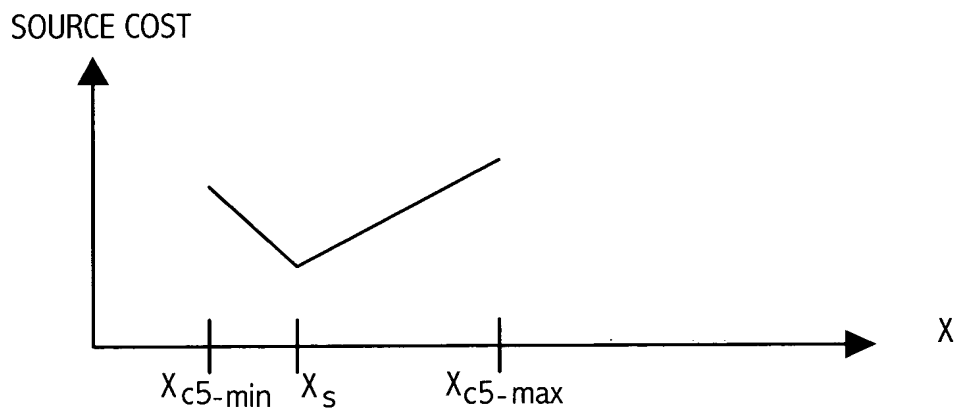


FIG. 4